page 2 of this paper consisting of a total of 17 sheets.

Remarks begin on page 17 of this paper.

The proposed amendments to the claims 1-2 will replace all prior versions of the claims 1-2 in said application.

The proposed amendments to the claim 1 to be sent to Primary examiner Dr. Lori A. Clown by the fax of December 12, 2007 comprising:

Claim 1 (currently amended): A multiparameter method of ~~screening for the diagnosis, the prevention or the treatment~~ evaluating disease risk, disease cause, therapeutic target, and therapeutic efficiency of atherosclerosis-related coronary heart disease (CHD) or stroke comprising;

defining the disease as atherosclerosis-related CHD or stroke or other cardiovascular disease;

defining the normal as free from said disease;

defining the following parameters as atherosclerotic parameters consisting of c =

the Low-density lipoprotein (LDL) concentration parameter in mg/dL or c = the C-reactive protein (CRP) concentration parameter in mg/L, p = the blood systolic pressure parameter in mmHg or p = the blood diastolic pressure parameter in mmHg, f = the heart rate parameter in s^{-1}, a = the radius parameter along arterial radius in cm, T = the temperature parameter of blood plasma in °C, α = the angle parameter between gravity and the mean velocity of blood fluid in arterial vessels in degree and z = the axial position parameter of diffusion flux along the inner wall in the axial direction of arterial vessels in cm, called the diffusion length parameter;

measuring, for an individual having the ~~measured values of~~ disease, said atherosclerotic parameters of the following expressions:

$$J = A c^{\frac{11}{9}} (v^3 D^{16})^{\frac{1}{27}} \left(\frac{g \cos\alpha + fu}{z} \right)^{\frac{2}{9}} \qquad (1.1)$$

or

$$J = B c^{\frac{11}{9}} p^{\frac{1}{3}} T^{\frac{16}{27}} a^{\frac{2}{3}} f^{\frac{2}{9}} z^{-\frac{2}{9}} \qquad (1.2)$$

and

$$J = E\, c^{\frac{11}{9}} D^{\frac{16}{27}} z^{-\frac{2}{9}} (\cos\alpha)^{\frac{2}{9}} \qquad (1.3)$$

wherein J = the mass transfer flux in 10^{-5}

$g/(cm^2s)$, A, B and E = the constants of conversion factors, v = the eddy velocity of blood fluid in arterial vessels in cm/s, u = the mean velocity of the blood fluid in cm/s, D = the diffusion coefficient in cm^2/s, and g = the gravitational acceleration in cm/s^2;

~~the~~ measuring, for an individual not having the disease, the normal values of said atherosclerotic parameters;

determining the disease risks yielded by the difference between said measured values and said normal values of said atherosclerotic parameters;

adding all said disease risks ~~together yields~~ containing a total risk of said disease;

determining a disease risk level containing said total risk of said disease;

selecting an atherosclerotic risk factor related to an atherosclerotic parameter that is the greatest contribution to said total risk of said disease so as to result in said risk

factor as a primary therapy target of said disease;

selecting a greater flux between the LDL mass transfer flux and the monocyte mass transfer flux so as to result in said greater flux as a primary cause in said disease;

selecting a greater concentration level between the LDL level in serum and the CRP level in blood plasma so as to result in said greater level as a secondary therapy target of said disease;

determining a relative ratio between currently said total risk and previously said total risk so as to yield said relative ratio as a therapeutic efficacy of said disease;

repeating above-mentioned said methods until said disease risk level is reduced to a normal level for said individual who requires the therapy to prevent or to treat atherosclerosis-related CHD or stroke;

above-mentioned said methods are written as an executable computer program named the MMA.exe,

or another name, to be installed into a general purpose digital computer device to accomplish said methods; and

~~to output~~ outputting ~~a result of said methods~~ said total disease risk, disease cause, therapeutic target and therapeutic efficiency to ~~a display or a memory or another computer on a network, or to~~ a user or a display.

The proposed amendments to the claim 2 to be sent to Examiner Mr. Jason M. Sims by the fax of December 10, 2007 comprising:

Claim 2 (Currently amended): A method as in claim 1, wherein the nine disease risks are yielded by the differences between the measured values and the normal values of the nine atherosclerotic parameters, said method comprising the steps of:

a measured value, c_m in mg/dL, of the individual's LDL concentration in human serum is determined using a medical technique for measuring the concentration of blood constituents or said c_m is determined by the physician,

a normal value, c_n in mg/dL, of said LDL concentration is determined by the physician or said c_n = 100 mg/dL for adult,

calculating $\frac{J_m - J_n}{J_n}$, where J_m yielded by substituting said c_m into said equation (1.1) and J_n yielded by substituting said C_n into said equation (1.1), yields:

$$R_1 = \left(\frac{c_m}{c_n}\right)^{\frac{11}{9}} - 1 \qquad (1)$$

substituting said C_m and said C_n into ~~the following expression~~ (1) where $c_m \geq c_n$ and

calculating (1) yields the disease risk R_1 caused by the LDL concentration parameter related to the atherosclerotic risk factors being an elevated LDL concentration in human serum, high-fat diet, hypercholesterolemia or other risk factors that increase said LDL concentration;

a measured value, C_m in mg/L, of the individual's CRP concentration in human blood plasma is determined using a medical technique for measuring the concentration of blood

constituents or said C_m is determined by the physician,

a normal value, C_n in mg/L, of said CRP concentration and an equivalent factor, F, are determined by the physician wherein $F=\left(\frac{D_c}{D_L}\right)^{\frac{16}{27}}$, D_c = the CRP diffusion coefficient and D_L = the LDL diffusion coefficient or said c_n = 1.0 mg/L for adult and said F = 0.66,

calculating $\frac{J_m-J_n}{J_n}$, where J_m yielded by substituting said C_m into said equation (1.1) and J_n yielded by substituting said C_n into said equation (1.1), yields:

$$R_2 = F\left(\left(\frac{c_m}{c_n}\right)^{\frac{11}{9}} - 1\right) \qquad (2)$$

substituting said C_m, said C_n and said F into ~~the following expression~~ (2) where $c_m \geq c_n$ and

calculating (2) yields the disease risk R_2 caused by the CRP concentration parameter related to the atherosclerotic risk factors being an elevated CRP level in human blood

plasma, systemic inflammation, infectious agents or other risk factors that increase said CRP level;

a measured value, P_m in mmHg, of the individual's blood systolic pressure is determined using a medical technique for measuring the human blood pressure or said P_m is determined by the physician,

a normal value, P_n in mmHg, of said systolic pressure is determined by the physician or said P_n = 120 mmHg for adult,

calculating $\frac{J_m - J_n}{J_n}$, where J_m yielded by substituting said P_m into said equation (1.2) and J_n yielded by substituting said P_n into said equation (1.2), yields:

$$R_3 = \left(\frac{P_m}{P_n}\right)^{\frac{1}{3}} - 1 \qquad (3)$$

substituting said P_m and said P_n into ~~the following expression~~ (3) where $p_m \geq p_n$ and

calculating (3) yields the disease risk R_3 caused by the systolic pressure parameter

related to the atherosclerotic risk factors being an elevated level of blood systolic pressure, family history of hypertension or other risk factors that increase said systolic pressure;

a measured value, P_m in mmHg, of the dividual's blood diastolic pressure is determined using a medical technique for measuring the human blood pressure or said P_m is determined by the physician,

a normal value, P_n in mmHg, of said blood diastolic pressure is determined by the physician or said P_n = 70 mmHg for adult,

calculating $\frac{J_m - J_n}{J_n}$, where J_m yielded by substituting said P_m into said equation (1.2) and J_n yielded by substituting said P_n into said equation (1.2), yields:

$$R_4 = \left(\frac{P_m}{P_n}\right)^{\frac{1}{3}} - 1 \tag{4}$$

substituting said P_m and said P_n into ~~the following expression~~ (4) where $p_m \geq p_n$ and

calculating (4) yields the disease risk R_4 caused by the diastolic pressure parameter related to the atherosclerotic risk factors being an elevate level of blood diastolic pressure, family history of hypertension or other risk factors that increase said diastolic pressure;

a measured value, f_m in s^{-1}, of the individual's heart rate is determined using a medical technique for measuring the human heart rate or said f_m is determined by the physician,

a normal value, f_n in s^{-1}, of said heart rate is determined by the physician or said f_n = 72 per minute for adult,

calculating $\frac{J_m - J_n}{J_n}$, where J_m yielded by substituting said f_m into said equation (1.2) and J_n yielded by substituting said f_n into said equation (1.2), yields:

$$R_5 = \left(\frac{f_m}{f_n}\right)^{\frac{2}{9}} - 1 \qquad (5)$$

substituting said f_m and said f_n into ~~the following expression~~ (5) where $f_m > f_n$ and

calculating (5) yields the disease risk R_5 caused by the heart rate parameter related to the atherosclerotic risk factors being an elevated level of heart rate, smoking cigarette, depression or other risk factors that increase said heart rate;

a measured radius value, a_m in cm, of the individual's arterial vessel at the lesion-prone sites of arterial bifurcations, arterial branching, arterial curvatures or arterial tapering is determined using a medical technique for measuring the sizes of arterial vessels or said a_m is determined by the physician,

a normal value, a_n in cm, of said arterial radius is determined by the physician or said a_n = a value between 0.2 cm and 2.2 cm for adult,

calculating $\frac{J_m - J_n}{J_n}$, where J_m yielded by substituting said a_m into said equation (1.2) and J_n yielded by substituting said a_n into said equation (1.2), yields:

$$R_6 = \left(\frac{a_m}{a_n}\right)^{\frac{2}{3}} - 1 \qquad (6)$$

substituting said a_m and said a_n into ~~the following expression~~ (6) where $a_m \geq a_n$ and

calculating (6) yields the disease risk R_6 caused by the arterial radius parameter related to the atherosclerotic risk factors being an increased size of arterial radius at said lesion-prone sites or other risk factors that increase the size of said arterial radius;

a measured temperature value, T_m in °C, of the individual's plasma fluid in the region at said lesion-prone sites is determined using a medical technique for measuring the temperature of human blood plasma or said T_m is determined by the physician,

a normal value, T_n in °C, of said plasma temperature is determined by the physician or said T_n = 37°C,

calculating $\frac{J_m - J_n}{J_n}$, where J_m yielded by substituting said T_m into said equation (1.2) and J_n yielded by substituting said T_n into said equation (1.2), yields:

$$R_7 = \left(\frac{T_m}{T_n}\right)^{\frac{16}{27}} - 1 \qquad (7)$$

substituting said T_m and said T_n into ~~the following expression~~ (7) where $T_m \geq T_n$ and

calculating (7) yields the disease risk R_7 caused by the plasma temperature parameter related to the atherosclerotic risk factors being an elevated temperature of said human blood plasma at said lesion-prone sites, elevated body temperature-related diseases or other risk factors that increase said plasma temperature;

a measured value, α_m in degree, of the angle between gravity and the average velocity of the blood fluid in the region at said lesion-prone sites is determined using a medical technique for measuring the human arterial geometries or said α_m is determined by the physician,

a normal value, α_n in degree, of said angle is determined by the physician or said α_n = a value between the 10° and 60° for adult,

calculating $\frac{J_m - J_n}{J_n}$, where J_m yielded by

substituting said α_m into said equation (1.3) and J_n yielded by substituting said α_n into said equation (1.3), yields:

$$R_8 = \left(\frac{\cos\alpha_m}{\cos\alpha_n}\right)^{\frac{2}{9}} - 1 \tag{8}$$

substituting said α_m and said α_n into ~~the following expression~~ (8) where $\alpha_n \geq \alpha_m$ and

calculating (8) yields the disease risk R_8 caused by the angle parameter related to the atherosclerotic risk factors being a reduced size of said angle or other risk factors that reduce said angle size; and

a measured value, z_m in cm, of the individual's axial length of diffusion flux along the inner arterial wall at said lesion-prone sites is determined using a medical technique for measuring the human arterial geometries or said z_m is determined by the physician,

a normal value, z_n in cm, of said axial length is determined by the physician or said z_n = a value between 0.10 cm and 1.00 cm,

calculating $\frac{J_m - J_n}{J_n}$, where J_m yielded by substituting said z_m into said equation (1.1) and J_n yielded by substituting said z_n into said equation (1.1), yields:

$$R_9 = \left(\frac{z_n}{z_m}\right)^{\frac{2}{9}} - 1 \qquad (9)$$

substituting said z_m and said z_n into ~~the following expression~~ (9) where $z_m \le z_n$ and

calculating (9) yields the disease risk R_9 caused by the diffusion length parameter related to the atherosclerotic risk factors being a decrease in said axial length of the diffusion flux or other risk factors that decrease said diffusion length.

Appl. No. 10/810,296
Dated 1/2/2008

Reply to Office Communication of 12/27/ 2007

Remarks

Several words in the claim 1 have changed based on the communication of phone interview and fax on December 5, 2007, respectively.

The claim 2 has amended based on the communication of phone interview on December 10 and 12, 2007, respectively.

Applicant respectfully request that a timely Notice of Allowance be issued in this case.

Thank you for your consideration.

Respectfully submitted,

Xingfa Wang

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Applicant

Encl.: Office communication dated 12/27/2007(2 sheets)